



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,568	01/23/2004	Gert-Jan Heerens	081468-0307814	3196
909	7590	01/04/2005	EXAMINER	
PILLSBURY WINTHROP, LLP			NGUYEN, HUNG	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2851	

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/762,568

**Applicant(s)**

HEERENS ET AL.

**Examiner**

Hung Henry V Nguyen

**Art Unit**

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Abstract*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract is objected to because the following term should be omitted" "comprises" lines 2 and 7. Correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoyama (U.S.Pat. 6,697,145).

With respect to claims 1, 6-8 and 13-15, and 20-21, Aoyama discloses a lithographic apparatus comprising all of the basic features of the instant claims such as: an illumination system (see col.6, lines 26-30) for providing a beam of radiation; a support structure constructed to support a patterning device (30) and the patterning device configured to impact the beam of radiation with a desired pattern in its cross-section; a substrate stage (25) for holding a substrate

Art Unit: 2851

(10) ; a projection system (28) for projecting the predetermined pattern formed on the patterning device onto the substrate and a conditioned chamber (2) for reducing pressure environment and reducing particle concentration environment (see col.6, lines 65-67) and an actuator (11, 12) configured to introduce at least one of the patterning device and the substrate into the condition chamber and an alignment system (17) configured to position the substrate in alignment with the projected patterned beam of radiation wherein the alignment system is disposed outside of the conditioned chamber (see figure 2)

As to claims 2, and 9-10, Aoyama teaches the actuator including an actuator arm having a carrier structure configured to move the substrate from the alignment system to the substrate stage. (see col.5, lines 25-42).

As to claims 3, and 17, the carrier structure is provided with a fixation device (11-14, 16 ) to fix the substrate to the carrier structure.

As to claims 4, 10-11, and 18-19, the alignment system (17) is provided with a docking system (figure 1) configured to dock the carrier structure.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyai et al (U.S.Pat. 5,825,470) in view of Nishi et al (U.S 2004/0223132).

With respect to claims 1-21, Miyai et al discloses a lithographic apparatus comprising substantially all of the structures set forth in the instant claims including an illumination system (24-28) configured to provide a beam of radiation system; a support structure (32) for supporting a patterning device (30); a projection optical system (18) for projecting a predetermined pattern formed on the patterning device onto the substrate; a substrate stage (38, 40-44) for supporting the substrate (34); a conditioned chamber (12) for reducing the pressure and particle concentration environment; an actuator (70-72) configured to introduce at least one of the patterning device and the substrate into the conditioned chamber (12) (see figure 1). Miyai et al further teaches a robot hand control system (152) for controlling the movement of the transport arm of the actuator. Miyai et al does not expressly disclose an alignment system for positioning the substrate in alignment with projected beam of radiation. As discussed, Aoyama teaches an alignment system (17) provided outside of the conditioned chamber for positioning the substrate in alignment with the projected pattern beam of radiation so that no alignment is needed in the exposure system (see col.3, lines 24-29). In view of such teachings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Miyai et al and Aoyama to obtain the invention as specified in claims 1-21 of the present invention. It would have been obvious to a skilled artisan to employ the alignment system as suggested by Aoyama into the lithographic system of Miyai for at least the purpose of "reducing the overall installation area of the exposure system, in which high performance air conditioned is required".

Art Unit: 2851

***Prior Art Made of Record***


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nishi (US 2004/0223132 teaches a lithography system where an alignment system (37) is provided on a docking system to position the reticle (R) in alignment before it is transferred to the projected position.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Hung Henry V Nguyen**  
**Primary Examiner**  
**Art Unit 2851**

hvn  
12/28/04